

RULE 230 PLASTIC PRODUCTS AND MATERIALS - PAPER TREATING OPERATIONS

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100 GENERAL

101 APPLICABILITY: The provisions of this rule shall apply to paper treating operations involving the application of melamine and phenolic resins to paper substrates.

200 DEFINITIONS

201 COATING APPLICATOR: An apparatus used to apply a surface coating.

202 EXEMPT COMPOUNDS: For the purposes of this rule, exempt compounds are the following:

- 202.1 Methane
- 202.2 Carbon dioxide
- 202.3 Carbon monoxide
- 202.4 Carbonic acid
- 202.5 Metallic carbides or carbonates
- 202.6 Ammonium carbonate
- 202.7 1,1,1-trichloroethane
- 202.8 Methylene chloride
- 202.9 2,2-dichloro-1,1,1-trifluoroethane (HCFC-123)
- 202.10 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
- 202.11 Trichlorofluoromethane (CFC-11)
- 202.12 Dichlorodifluoromethane (CFC-12)
- 202.13 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113)
- 202.14 1-chloro-1,1-difluoro-2-chloro-2,2-difluoroethane (CFC-114)
- 202.15 Chloropentafluoroethane (CFC-115)
- 202.16 Pentafluoroethane (HFC-125)
- 202.17 1,1,2,2-tetrafluoroethane (HFC-134)
- 202.18 Tetrafluoroethane (HFC-134a)
- 202.19 1,1-dichloro-1-fluoroethane (HCFC-141b)
- 202.20 1-chloro-1,1-difluoroethane (HCFC-142b)
- 202.21 1,1,1-trifluoroethane (HFC-143a)
- 202.22 Chlorodifluoromethane (HCFC-22)
- 202.23 Trifluoromethane (HFC-23)
- 202.24 Difluoroethane (HFC-152a)
- 202.25 The following four classes of perfluorocarbon compounds:
 - a. Cyclic, branched, or linear, completely fluorinated alkanes.
 - b. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations.
 - c. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations.
 - d. Sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.

Perfluorocarbon compounds will be assumed to be absent from a product or process unless a manufacturer or facility operator identifies the specific individual compounds (from the broad classes of perfluorocarbon compounds) and the amounts present in the product or process and provides a validated test method which can be used to quantify the specific compounds.

203 MELAMINE TREATER: A coating line process where a melamine resin is applied to a paper substrate.

204 OVEN: A chamber within which heat is used for one or more of the following purposes: to dry, bake, cure, or polymerize a surface coating or ink.

205 PAPER TREATING OPERATION: The coating line process in which a uniform layer of phenolic or melamine resin is applied either by a) dipping a continuous, moving paper substrate into the resin and then using rollers to squeeze the excess resin from the paper, or b) applying the resin directly to the paper substrate with a roll applicator. Paper treating operations also include associated oven equipment used for drying the resin coating.

206 PHENOLIC TREATER: The coating line process where a phenolic resin is applied to the paper substrate.

207 POUNDS OF VOC PER GALLON OF COATING LESS WATER AND LESS EXEMPT COMPOUNDS: The weight of VOC per combined volume of VOC and coating solids and is calculated by the following equation:

$$G_{\text{voc}} = (W_v - W_w - W_{\text{ec}}) / (V_m - V_w - V_{\text{ec}})$$

where:

G_{voc} = Pounds VOC per gallon coating less water and exempt compounds

W_v = Weight of all volatile compounds in pounds

W_w = Weight of water in pounds

W_{ec} = Weight of exempt compounds in pounds

V_m = Volume of coating material in gallons

V_w = Volume of water in gallons

V_{ec} = Volume of exempt compounds in gallons

208 VOLATILE ORGANIC COMPOUND (VOC): Any compound that contains at least one atom of carbon, except exempt compounds.

300 STANDARDS

301 VOC LIMITATIONS: Except as provided in Section 302, the VOC content of coatings applied in paper treating operations shall not exceed 1.75 pounds of VOC per gallon of coating less water and exempt compounds for phenolic treaters, and 0.1 pounds of VOC per gallon of coating less water and exempt compounds for melamine treaters.

302 EMISSION CONTROL SYSTEM: Alternatively, a person may comply with the provisions of Section 301 by using an emission control system, provided that the overall efficiency of the system (capture efficiency multiplied by control efficiency) shall not be less than 85 percent by weight in reducing emissions of organic compounds. The total VOC emissions from paper treating operations under this section, considering capture and control efficiencies, shall be equivalent to or less than the VOC emissions level that would be achieved by complying with Section 301. The emission control system shall be approved in writing by the Air Pollution Control Officer in accordance with Rule 501 (General Permit Requirements).

400 ADMINISTRATIVE REQUIREMENTS

401 COMPLIANCE SCHEDULE: The VOC limitations specified in Section 301, or alternatively Section 302, shall be achieved on or before February 1, 1995.

402 OPERATION AND MAINTENANCE PLAN: Any person using an emission control device as a means of complying with this rule, as provided in Section 302, shall submit an Operation and Maintenance Plan with the application for Authority to Construct for the emission control device.

402.1 The Operation and Maintenance Plan shall specify:

- a. Operation and maintenance procedures that will demonstrate continuous operation of the emission control device during emission-producing operations; and
 - b. Records that must be kept to document the operation and maintenance procedures.
- 402.2 The records must comply with Sections 502 and 503.
- 402.3 The Operation and Maintenance Plan shall be implemented upon approval by the Air Pollution Control Officer.
- 402.4 After completing the construction of the emission control device, the Operation and Maintenance Plan shall be resubmitted annually for approval.

500 MONITORING AND RECORDS

501 COATING AND SOLVENT RECORDS

- 501.1 Any person subject to the provisions of this rule shall maintain a current list of coatings and solvents used in paper treating operations that includes the information required below. This information shall be updated whenever the coating/solvent formulation is changed, and may be obtained from the coating/solvent manufacturer or from data collected in accordance with the provisions of this rule.
 - a. name and manufacturer information;
 - b. mixing instructions;
 - c. density;
 - d. weight percent VOC as applied;
 - e. weight percent water;
 - f. weight percent exempt compounds;
 - g. volume percent water; and
 - h. volume percent exempt compounds.
- 501.2 Any person subject to the provisions of this rule shall maintain records of the amounts of coatings and VOCs used in paper treating operations according to the following schedule:
 - a. monthly records showing the types and amounts of coatings used that meet the VOC limitations in Section 301 and
 - b. daily records showing the types and amounts of coatings used in paper treating operations when such usage was in conjunction with an emission control system as provided in Section 302.

502 CONTROL EQUIPMENT RECORDS

- 502.1 Any person using an emission control device pursuant to Section 302 as a means of complying with this rule shall maintain such records as required by the Operation and Maintenance Plan specified in Section 402 on a daily basis.
- 502.2 Compliance with the standards of Section 302 shall be demonstrated by conducting annual source testing of any emission control equipment as specified in Section 505 and by analyzing resin VOC content as specified in Section 504.

503 DURATION OF RECORDS: All records maintained pursuant to this rule shall be retained for at least two years from the date of entry, with the exception that sources subject to the requirements of Rule 507, FEDERAL OPERATING PERMIT PROGRAM, shall retain records at least five years. Records shall be made available for inspection by the Air Pollution Control Officer upon request.

504 TEST METHODS FOR VOC CONTENT

- 504.1 The VOC content of coatings subject to the provisions of this rule shall be analyzed as prescribed in U.S. EPA Reference Method 24 as found in 40 CFR 60, Appendix A.
- 504.2 The water content of coatings subject to the provisions of this rule shall be analyzed as prescribed in ASTM Method D3792-79.
- 504.3 Measurement of exempt compounds shall be conducted and reported in accordance with ASTM Method D4457-85. For exempt compounds where no reference test method is available, any person requesting the exemption shall provide appropriate alternative test methods approved by the Air Pollution Control Officer and the U.S. EPA.

505 TEST METHODS FOR CAPTURE AND CONTROL EFFICIENCY

- 505.1 Capture efficiency of the emission control system, as specified in Section 302, shall be determined in accordance with the U.S. EPA protocols referenced in 50 CFR 52.741(a)(4)(iii).
- 505.2 Control efficiency, as specified in Section 302, shall be determined by U.S. EPA Reference Methods 25 or 25A as found in 40 CFR Part 60, Appendix A.